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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID FIFELD

Appeal 2008-1348
Application 10/810,112
Technology Center 2600

Decided: September 30, 2008

Before KENNETH W. HAIRSTON, JOHN A. JEFFERY,
and R. EUGENE VARNDELL, JR., *Administrative Patent Judges*.

VARNDELL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-20. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

The invention claimed on appeal relates to a communication system and method for providing dual band wireless communications (App. Br. 2, Spec. 3-4). The invention comprises a first pair of antenna elements used to transmit and receive RF signals at a first frequency and a second pair of antenna elements used to transmit and receive RF signals at a second frequency (Spec. 8, 9, 17). Figure 3 shows a first pair of antenna elements at 86 and 89 and a second pair of antenna elements at 46 and 47. Figure 5 shows a first pair of antenna elements at 162a and 162b and a second pair of antenna elements at 164a and 164b. The antenna elements connect to a diversity switch (Spec. 17). The antenna elements and diversity switch can be mounted on a circuit board (Spec 18).

Claim 1, which further illustrates and represents the invention claimed on appeal, follows:

> 1. A communication system for providing dual band wireless communications comprising:
>
> a first radio transceiver operable to communicate using RF signals at a first frequency;
>
> a second transceiver operable to communicate using RF signals at a second frequency;
>
> a first pair of antenna elements for transmitting and receiving RF signals at said first frequency;
>
> a second pair of antenna elements operable for transmitting and receiving RF signals at said second frequency; and
>
> a diversity switch operably connected to said first and second transceivers and said first and second pairs of antenna elements, said diversity switch being operable to selectively direct RF signals at said first frequency between said first transceiver and said first pair of antenna elements and to direct RF signals at said second frequency between said second transceiver and said second pair of antenna elements;
>
> wherein said first and second transceivers, said diversity switch and said first and second pairs of antenna elements are disposed on a

circuit board whereby said individual elements of said first and second pair of antenna elements are disposed on said circuit board to optimize spatial diversity of said individual elements to optimize reception of said RF signals at said first and second frequencies.

The Examiner relies on the following prior art references to show unpatentability:

Greer	US 2003/0146876 A1	Aug. 7, 2003
He	US 2004/0198420 A1	Oct. 7, 2004

The Final Rejection mailed on August 2, 2006 set forth a rejection of claims 1-20 on appeal as being unpatentable under 35 U.S.C. § 103(a) over He in view of Greer.

Rather than repeat the arguments of Appellant or the Examiner, we refer to the Appeal Brief filed on April 9, 2007, the Examiner's Answer[1] mailed on June 29, 2007, the Reply Brief filed on August 29, 2007, and the Supplemental Reply Brief filed on November 27, 2007 for their respective details. Appellant collectively argues independent claims 1 and 11 (App. Br. 3-4; Reply Br. 2; Sup. Reply Br. 1-2). Appellant's Briefs contain no separate arguments for dependent claims 2-10 and 12-20. Arguments which Appellant could have made but did not make in his Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii). Therefore, the dependent claims stand or fall with independent claims 1 and 11 on appeal.

OPINION

[1] For the purposes of this Opinion, the blank page in the Examiner's Answer between the first page 2 and the second page 2 is renumbered as page "2A" and the second page 2 is renumbered as page "2B." Thus, the pagination in the Examiner's Answer is as follows: cover page, 2, 2A, 2B, 3, 4, 5, and 6.

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

The Examiner explains that He teaches all limitations of claim 1 on appeal with the exception of the first and second "pair" of antenna elements (Ans. 2A). Appellant does not challenge these factual findings of the Examiner (App. Br. 3-4, Reply Br. 1-2, Sup. Reply Br. 1-2).

The Examiner explains that Greer teaches a multiple antenna diversity for wireless local area network (WLAN) applications that includes a first pair of antenna elements, a second pair of antenna elements, a diversity switch for connecting the transceivers with the appropriate antenna pair (Greer, page 8, claim 17) where the antenna elements are disposed on a PCMCIA card (Greer, page 4, ¶ 0044) (Ans. 2A).

The Examiner concludes that it would have been obvious to one of ordinary skill in the art to modify the device of He to include the antenna diversity and selection of Greer (Ans. 2A). This would include using a pair of antenna elements for each of the single antenna elements of He to incorporate the antenna diversity and selection of Greer (Ans. 2A).

The issue on appeal is whether it would have been obvious to one of ordinary skill in the art to replace each of the single antenna elements in the device of He with a pair of antenna elements as taught by Greer.

We agree with the Examiner's conclusion of obviousness. Namely, one of ordinary skill in the art would have found it obvious to replace the

single antenna elements in the device of He with a pair of antenna elements as taught by Greer.

Discussing the question of obviousness of a patent that claims a rearrangement of known elements, the Court in *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740 (2007) explains:

> [W]hen a patent "simply arranges old elements with each performing the same function it had been known to perform" and yields no more than one would expect from such an arrangement, the combination is obvious. [citing *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282 (1976)].

Replacing each of the single antenna elements of He with a pair of antenna elements as taught by Greer simply arranges the pair of antenna elements as taught by Greer within the device of He, where the elements perform the same function they have been known to perform and yield no more than one would expect from such an arrangement. Therefore, the combination is obvious. Reasons for replacing each of the single antenna elements of He with the pair of antenna elements of Greer include increasing signal strength and reception for RF signals and as set forth by the Examiner on pages 4-6 of the Answer.

While it is not a factual finding necessary for the conclusion of obviousness set forth above, we discuss a factual finding of the Examiner raised by Appellant throughout the Briefs. Appellant argues that there is no technical basis for the Examiner's statement that Greer at Page 8, Claim 17 teaches a first and second pair of antennas for transmitting and receiving signals at a first frequency and a second frequency (App. Br. 4, Reply Br. 1-2). Appellant further argues that Greer does not provide an enabling disclosure for claim 8 of Greer within the meaning of the first paragraph of

35 U.S.C. § 112 (Reply Br. 1-2, Sup. Reply Br. 1-2). The Examiner cites paragraphs 0012, 0014, and 0040 and claim 17 of Greer as supporting his factual finding that Greer teaches a first and second pair of antennas for transmitting and receiving signals at a first frequency and a second frequency (Ans. 4-5). Contrary to the position proffered by Appellant on pages 1 and 2 of the Reply Brief, the description of subject matter only in the claim of Greer can provide an enabling disclosure of that subject matter. Appellant has not proven otherwise, such as by submitting any evidence of non-enablement.

In summary, Appellant has not established any error with the Examiner's factual findings that He teaches all limitations of claim 1 on appeal with the exception of the first and second "pair" of antenna elements and that Greer teaches replacing a single antenna element with a pair of antenna elements for reasons including increasing signal strength. In addition, Appellant has not established any error in the Examiner's conclusion of obviousness, namely, one of ordinary skill in the art would have found the invention defined in appealed claims 1-20 obvious within the meaning of 35 U.S.C. § 103(a) in view of He and Greer at the time of the invention. Accordingly, we affirm the rejection of claims 1-20 under 35 U.S.C. § 103(a).

CONCLUSION

The Examiner's decision rejecting claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over He in view of Greer is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

tdl

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